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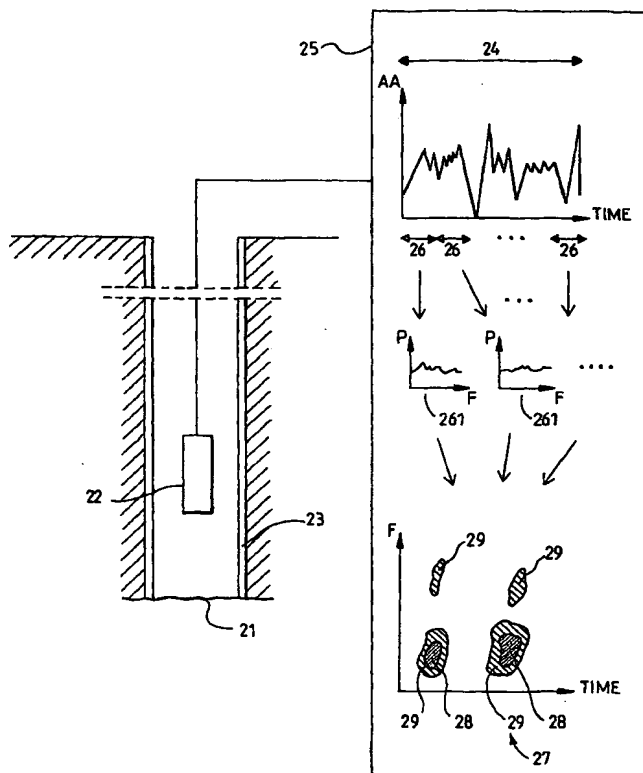
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(54) Title: METHOD AND APPARATUS FOR ACOUSTIC DETECTION OF A FLUID LEAK BEHIND A CASING OF A BOREHOLE



(57) Abstract: An acoustic detection of a discrete acoustic signal allows to detect a leak behind a casing (23) of a borehole. An acoustic amplitude (AA) is sampled during a recording time period (24 ; 64) at a determined position along the tube. Time intervals (26 ; 66) are defined inside of the recording time period (24), and for each time interval (26) the measured acoustic amplitudes are processed to obtain respectively a corresponding power-frequency spectrum (261). A plurality of the power-frequency spectra are analyzed to identify the discrete acoustic signal by detecting time and frequency dependant changes of power. Preferably the processing involves a Fourier transform analysis. A power-frequency time plot is used to conveniently identify the discrete acoustic event.

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